

TQM implementation Critical issues for TQM implementation in higher education

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Abstract

While total quality management has been adopted by many organizations world-wide, its implementation in non-profit organizations, such as higher education institutions, presents more challenges and difficulties than those encountered in business organizations. A critical step in TQM implementation is the process of customer identification. In addition to customer identification, there are other issues such as leadership, cultural, and organizational issues that tend to create difficulties for TQM implementation in higher education. These issues along with the role of students from a quality perspective and performance measures for higher education are discussed, and suggestions are made for their resolution.

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Introduction

Total quality management (TQM) has been adopted as a management paradigm by many organizations worldwide. Quality movement in almost every country usually starts with quality improvement projects at manufacturing companies. TQM, as this paradigm is now called, spreads later to service companies such as banks and insurance companies, and eventually to non-profit organizations such as health care, government, and education institutions. TQM models, based on the teachings of quality gurus, generally involve a number of "principles" or "essential elements" such as top management's leadership, teamwork, customer focus, employee involvement, training, continuous improvement tools and several other elements, which are all required for successful TQM implementation. In fact, many prominent quality awards, such as Deming in Japan, Malcolm Baldrige in the USA and the European Quality Award, have adopted these essential elements of TQM as their award criteria.

While higher education institutions are the home for learning and create knowledge through their research function, it is ironic that they have been lagging behind other organizations in embracing and implementing TQM. This inertia in the adoption of TQM seems to be due to certain structural and traditional characteristics of higher education institutions. There are also some special challenges that are not encountered in other organizations. Some of these characteristics which cause difficulties in TQM implementation are discussed in this article. Quality in higher education is treated from different perspectives in other articles in the literature. For example, measurement and evaluation of quality in higher education are studied in Grant (2002), Tranter (2001), and Bennett (2001). On the other hand, Owlia and Aspinwall (1996) discuss the findings of a survey conducted to examine the different views on the applicability of industrial quality management principles to higher education.

Leadership

Top management's leadership is one of the essential elements of TQM. In every country where TQM has been implemented, there are examples of company executives who have initiated the cultural change and carried their organizations through the quality journey. Quite different from the CEOs of business organizations, presidents and chancellors of higher education institutions do not enjoy ultimate authority in



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hiring and firing of personnel and allocating resources. For example, in US public universities, a shared governance system where faculty shares the administration of university matters with the president and the deans is in effect. This type of shared governance leads to diffusion of authority and responsibility, and, as a result, the top administration lacks the authority to undertake drastic measures and changes in higher education institutions. University presidents and chancellors, as leaders, can naturally set goals, organizational values, and performance expectations. However, since they lack the necessary authority, it is difficult for them to deploy these values and goals through the layers of the higher education institutions.

Cultural and organizational transformation

A set of issues that encompasses a number of TQM elements may be discussed under cultural transformation. Organizations that have adopted TQM have transformed their institution's culture into a total quality culture that involves elements such as teamwork, customer and market focus, employee involvement and participation, and process management.

Higher education institutions have deep-rooted traditions, dating back several centuries, which cause them to resist change. For example, universities and colleges are organized into departmental units based on academic disciplines. In adopting the TQM culture, organizations need to move from a product focus to a market focus. However, the primary loyalty of faculty, particularly research faculty, is their academic field. Market requirements for their students are of secondary importance for them. This product focus is true in general, but to a lesser extent for the faculties of professional schools such as business and engineering.

Organizationally, higher education institutions are based on a strong departmental model. The departmental structure is further reinforced by the fact that tenure and promotion decisions for faculty are initiated by the departments, and the departments compete with each other for university resources. As a result of the strong departmental organization, implementation of horizontal (or process) management, which involves desirable practices such as interdepartmental team teaching and cooperation among departments for curriculum development, becomes difficult.

Customer identification

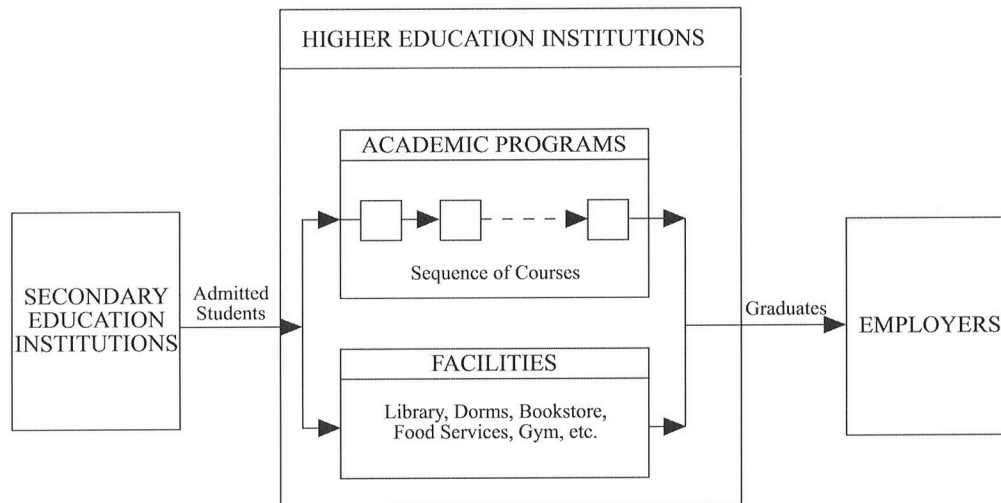
Among the essential elements of TQM, customer focus is probably the most important, as reflected by the weight assigned to it by various quality award criteria. In fact, customer satisfaction is often used synonymously with quality, and quality is frequently defined as meeting and exceeding customer expectations. One of the critical steps in TQM implementation is the step of customer identification, where current and potential customers of an organization are determined. Customer focus provides the direction and targets for improvement efforts, and customers and the market are the driving forces for quality efforts.

As higher education institutions adopt the TQM paradigm and initiate continuous improvement, the customer identification step at these institutions seems to present more difficulties than are encountered in business organizations. Among the main groups within the higher education institutions – namely faculty, students, and administrators – there is not much agreement on who the customers are. While most administrators tend to perceive students as the customers of faculty in the classroom, many faculty staff resent this metaphor as being too commercial. For example, in an effort to identify their customers, the quality council of a university generated a long list including students, parents, alumni, employers, society, faculty, local community, academic disciplines, and staff. While this looks like a complete list, some of the groups in the list are more like stakeholders than customers and, perhaps, customers of secondary processes, rather than the primary process (i.e. education of undergraduates) of the institution. Without a well-defined customer and a customer focus, quality efforts may easily be diffused.

Students' role

While in some higher education TQM models students are treated as customers, their role as customers is a debatable issue. It is clear that higher education institutions are service organizations, but a closer look at their operation reminds us the flow of products in a production plant. Figure 1 depicts the flow of students through a higher education institution. The analogy with a typical manufacturing organization is immediate. Once admitted, students move through the various courses required for a degree as raw material flows through the successive stages of the manufacturing process. As the finished product carries the brand name and label of the manufacturer, graduating students are issued with diplomas certifying that all

Figure 1 Student flow in higher education



the requirements for their degree have been completed. In the context of the production analogy, university graduates compete for jobs just as brands and products compete for customers in the market place. Thus, Figure 1 suggests that graduates may be interpreted as the finished product, and that employers are the customers of higher education institutions. Other components of this production analogy are given in Table I. Among service organizations, higher education institutions are probably unique in yielding a production analogy. In fact, this analogy may be very useful in implementing TQM in higher education, since TQM has been most successful in manufacturing organizations.

However, unlike manufacturing companies, in universities and colleges students have other roles besides their product roles. In a comprehensive effort, Sirvanci (1996) identified four different roles for students. According to Sirvanci (1996), depending on the process under study, students take on one of the following four roles within the higher education institutions:

- (1) *Product-in-process* – At the institutional level, i.e. the macro level, the production analogy model illustrated in Figure 1 and Table I is the

proper model. This model implies that the degree seeking students are the “product-in-process”. They are the “raw material” when admitted and the “finished product” when they graduate.

- (2) *Internal customers for facilities* – Students are the “internal customers”, in fact, paying customers for many campus facilities and services such as dormitories, food services, bookstores, libraries, sport facilities, registrar, and others. These non-academic facilities contribute indirectly to the quality of the institution’s product by helping to attract better students, providing a more satisfactory campus climate, and also by supporting academic programs.
- (3) *Laborers in the learning process* – This role was first identified by Sirvanci (1996) as one of the dual roles of the student in the classroom. In Harmon (1993), Glasser also suggested that students, though not technically employees, are more like lower-level employees. This role evolves because, contrary to typical service customers, students, as they receive service (knowledge) from their instructors, are expected simultaneously to work and exert effort in order to learn the material by various means such as completing projects, term papers, and preparing for tests. The *laborer* role seems to be unique to the students and because of this role, the education process is different from other service industries.
- (4) *Internal customers for the delivery of course material* – This is the other component of the student’s dual role in the classroom. In fact, most people have this role in mind when they think of students as customers.

From the multiple role descriptions above, it should be clear why customer identification in

Table I Production analogy for higher education

Higher education	Production
Secondary schools	Suppliers
Admitted high school graduates	Raw material
Student	Product-in-process
Courses	Process stages
Graduate	Finished product
Employers	Customers
Number of graduates employed	Sales
Number of graduates unemployed	Unsold product (inventory)
Starting salary	Price

higher education is a complicated and confusing issue. Since various groups who are involved with this issue seem to treat only one dimension of the problem rather than the whole, they usually infer a single label for students. In fact, when the Baldrige Education Criteria were first developed during the mid to late 1990s by adapting the performance criteria for business organizations to education institutions, it further blurred the customer issue with the substitution of student satisfaction for the customer satisfaction criterion. Although the word "customer" was never used, this substitution implied that students are to be considered as customers.

The most recent version of the Baldrige Education Criteria has clarified the confusion created by the initial version. The 2002 *Baldrige Education Criteria* (Baldrige National Quality Program, 2002) assigns the largest percentage (20 percent) of points to the "student learning results" criterion (criterion 7.1 in Baldrige National Quality Program, 2002) instead of student satisfaction. This newer interpretation of the student's role agrees well with the product role (and the finished product for graduates) described above in connection with the production analogy. The production analogy implies that, as all other organizations do, higher education institutions are expected to improve the quality of their products (i.e. students). More than student satisfaction, employers' appraisal of the graduates which is, in fact, a surrogate for society's satisfaction, is a valid performance measure in this case.

Representing the importance of higher education institutions for general society, the production analogy depicts the fundamental role of the student. However, the other roles of the student should not be ignored. For example, students' effort and work through their *laborer* role are essential as a principal input for the quality of the institution's product, namely its graduates. To be successful in this role, in addition to exerting effort, students need to have the necessary skills, disposition, and motivation. These factors are similar to the human resource issues that businesses face and deal with when they attempt to improve the productivity of their employees. Higher education may borrow ideas and methods from businesses to improve the output of their students.

The dual of the laborer role is the internal customer for the delivery of course material. To improve this component of classroom teaching, the best available source for feedback information is the students taking the class. Students' evaluation of course delivery and students' satisfaction are appropriate measures of performance in this case. However, because of the

dual roles of the student, this source needs to be used with caution so as not to affect course content adversely. The overlap between delivery and content may cause students to perceive the volume and difficulty of course material as poor performance in delivery. In fact, critics of student evaluations argue that demanding higher standards for students often results in lower evaluations, with the inevitable result that achievement levels are compromised. As a result, questionnaires for the measurement of satisfaction need to be very specific, designed to measure only the delivery aspects of the course.

A different aspect of the customer issue, one which is not related to customer identification, is customer loyalty. In businesses, customer loyalty is very important because repeat buying by loyal customers has a direct effect on profitability. However, higher education is a "once in a lifetime" activity. If students are considered as customers, this concept makes sense only when they make donations as alumni. However, if employers are the customers, repeat purchase means recruiting at the same universities and colleges every year.

Conclusion

Higher education institutions have been facing challenges for some time and are expected to face more in the future. While many business organizations have become leaner and more efficient as a result of the adoption of TQM, higher education institutions have not been affected by this trend to as great an extent. Similar to the rise in health care costs, the cost of higher education has been increasing steadily. These are some of the factors that are creating pressure on higher education institutions to change and become more efficient.

There are, however, examples of successful application of TQM principles and methods in many universities worldwide. In fact, for the first time in 2002, a higher education institution, University of Wisconsin-Stout, won the Baldrige education award. Some of the implementations of TQM principles in higher education have been confined to the administrative branches and non-academic processes of universities. On the academic side, some departments, for example, have used QFD (quality function deployment) for curriculum development and improvement. Advisory councils have been established for departments and colleges with the goal of receiving input information regarding the market demand for their graduates. Such an effort is definitely an example of customer and market focus. However, most of these applications have been somewhat

narrow in scope and have not advanced beyond a quality project application. The issues discussed here under the headings "Leadership" and "Cultural and organizational transformation" are some of the reasons hindering institution-wide implementation. Similar issues were encountered in University of Wisconsin-Stout's TQM implementation, and are discussed in Daniels (2002). Pennsylvania State University's efforts towards quality improvement are presented in Everett (2002).

In implementing TQM in higher education, one needs to realize that higher education is different from other service industries, and depending on how customers are identified, the performance measure for the organization and processes under study are profoundly affected. As discussed above, students have multiple roles and their roles cannot be simplified to that of a customer. Advances in technology have also been affecting higher education. Videotaped lectures, the use of multimedia in teaching and the emergence of "distance learning" are changing education processes structurally, and are reducing the role of traditional classroom teaching. TQM can clearly help in these turbulent times: however, university

administrators and boards of trustees need to overcome the issues discussed in this article.

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